ATTACHMENT J04

Fort Leavenworth Wastewater Collection System

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J04 Fort Leavenworth Wastewater Collection System

J04.1 Fort Leavenworth Overview

Fort Leavenworth occupies 5600 acres of land adjacent to Leavenworth, Kansas on US-73 and Kansas Route 92, approximately 30 miles northwest of Kansas City, Missouri. The Fort was established in 1827, and is a National Historic Landmark. Today it is home to the Command and General Staff College, Combined Arms Command (CAC), Training and Doctrine Command (TRADOC) analysis Command Headquarters, the 35th Infantry Division Headquarters, and the U.S. Disciplinary Barracks. Fort Leavenworth is staffed by 3200 active duty personnel and 2300 civilian personnel, with 4600 active duty dependents. The Fort has 1600 family housing units and 750 temporary housing units for staff college attendees.

J04.2 Wastewater Collection System Description

The wastewater network is comprised of approximately 152,000 linear feet of pipe, 554 manholes, eleven lift stations, and four pumpout/holding tanks for remote facilities not connected to the piping infrastructure. One lift station is not in use, and one is currently under construction to serve the new Disciplinary Barracks scheduled to come on-line in 2001. The age of the system ranges from recently installed components to more than 50 year-old piping.

J04.2.1 Wastewater Collection System Fixed Equipment Inventory

The Fort's wastewater system consists of collection and transport devices only, with treatment provided off-post by the City of Leavenworth's treatment facilities. The Fort's wastewater system consists of all appurtenances physically connected to the system from the point of demarcation defined by the real estate instruments (generally the footprint of each building connected to the system) to the point at which the waste exits the Post and is metered by the City of Leavenworth. The system includes pipelines, manholes, valves, lift stations (including backup generator systems), controls, etc. The following description and inventory is included to provide the Contractor a general understanding of the size and configuration of the system. The Contractor shall base the proposal on site inspections, information in the technical library, and the following description and inventory. Under no circumstances shall the Contractor be entitled to any service cost adjustments based on the accuracy of the following description and inventory.

J04.2.1.1 Description

Sewage Collection System

The existing on-post system is composed of 3-inch to 30-inch piping. The majority of these lines are vitrified clay, with some smaller sized PVC and cast-iron piping. Most of the clay pipe was installed from 1950 to 1978; the cast iron in the 1970s; and the PVC in the 1990s. Approximately 60% of the manholes in the system were installed over 50 years ago. About 2.5 million dollars has been invested in repair of structural and infiltration problems in the piping and manholes since 1995. An estimated $2.5 million of additional repair work has been identified but not funded.

Lift Stations

Eleven lift stations are located at various points in the system. Nine are currently operational, one is no longer used, and another is under construction at the new Disciplinary Barracks (scheduled to come online in early 2001). Seven of the nine currently operating were installed from 1983 to 1989.

Pumpout/Holding Tanks

Four holding tanks are operational at the following locations not served by the collection system: The Hunting Lodge, Skeet Range, Dog Kennel and Golf Maintenance Shack. The systems are all 10 to 20 years old, and are pumped out once a week on average.

Summary

The existing sanitary collection system at Fort Leavenworth is comprised of approximately 152,000 linear feet of piping ranging in size from 3-inch to 30-inch, as measured from the system maps provided by the installation, and approximately 554 collection system manholes. Eleven lift stations and four pumpout tanks are also a part of the system.

J04.2.1.2 Inventory

Table 1 provides a general listing of the major fixed assets for the Fort Leavenworth wastewater system. The system will be sold "as is, where is" without any warrantee, representation, or obligation on the part of the Government to make any alterations, repairs, or improvements. All ancillary equipment attached to and necessary for operating the system, though not specifically mentioned herein, is considered part of the purchased utility.

Table 1
Fixed Inventory
Wastewater Utility System - Fort Leavenworth

Item	Size	Quantity	Unit	Approximate Year of Construction
Cast Iron Pipe	3 inch	300	LF	1975
Cast Iron Pipe	4 inch	1,600	LF	1975
Cast Iron Pipe	6 inch	5,300	LF	1978
Cast Iron Pipe	16 inch	500	LF	1980
PVC Pipe	4 inch	3,200	LF	1990
PVC Pipe	6 inch	10,200	LF	1992
PVC Pipe	8 inch	15,900	LF	1990
PVC Pipe	10 inch	3,000	LF	1991
PVC Pipe	12 inch	1,500	LF	1996
Vitrified Clay Pipe	4 inch	800	LF	1940-75
Vitrified Clay Pipe	6 inch	25,000	LF	1940-75
Vitrified Clay Pipe	8 inch	51,600	LF	1940-75
Vitrified Clay Pipe	10 inch	12,200	LF	1940-75
Vitrified Clay Pipe	12 inch	5,800	LF	1940-75
Vitrified Clay Pipe	15 inch	2,500	LF	1940-75
Vitrified Clay Pipe	18 inch	3,700	LF	1940-75
Vitrified Clay Pipe	24 inch	8,500	LF	1940-75
Vitrified Clay Pipe	30 inch	500	LF	1940-75
Standard Sanitary Sewer Manhole, 12 ft deep	4 ft. I.D.	554	EA	1940 -- 1995
Wastewater Lift/Pump Station at Bluntville Ave.	50 hp each pump	2 Pumps	One Station	1997
Wastewater Lift/Pump Station at Sherman Army Airfield	3 hp each pump	2 Pumps	One Station	1983
Wastewater Lift/Pump Station #18B (at DOIM - Building 136)	5 hp each pump	2 Pumps	One Station	1985
Wastewater Lift/Pump Station at McPherson and Warehouse Roads	5 hp each pump	2 Pumps	One Station	1983
Wastewater Lift/Pump Station #343 (serving Pershing Family housing area)	40 hp each pump	2 Pumps	One Station	1989
Wastewater Lift/Pump Station at Wint Avenue	1 hp each pump	2 Pumps	One Station	1985
Wastewater Lift/Pump Station at Riverside Avenue	30 hp each pump	2 Pumps	One Station	1985

Table 1
Fixed Inventory
Wastewater Utility System - Fort Leavenworth

Item	Size	Quantity	Unit	Approximate Year of Construction
Wastewater Lift/Pump Station #14 at north side of Youth Center Building	3 hp each pump	2 pumps	One Station	1994
Wastewater Lift/Pump Station #B8323 at Pope and Hancock Streets (not currently in use)	7.5 hp compressor	1 pneumatic ejector pump	One Station	1994
Wastewater Lift/Pump Station at Disciplinary Barracks	5 hp each pump	2 pumps	One Station	1985
Wastewater Lift/Pump Station #14 at New Disciplinary Barracks (under construction)	50 hp each pump	2 pumps	One Station	2000
Emergency Generator for Sewage Equipment	25, 40 and 100 kW Caterpillar Olympian diesel	1 each size	3 total gensets	1997
Emergency Generator for Sewage Equipment	250 kW Caterpillar Olympian diesel	2	2 total gensets	1997
Dog Kennel Pumpout/Holding Tank	1000 gallons	1	tank	1980
Golf Maintenance Shack Pumpout/Holding Tank	1000 gallons	1	tank	1990
Hunting Lodge Pumpout/Holding Tank	1000 gallons	1	tank	1985
Skeet Range Pumpout/Holding Tank	1000 gallons	1	tank	1985
Building Connections	varies	850	---	1950-99
Wastewater Treatment Facility	None	---	---	---

Abbreviations:
PVC = Polyvinyl Chloride
LF = Linear Feet
EA = Each
Gpm = gallons per minute
KW = kilowatts

J04.2.2 Wastewater Collection System Non-Fixed Equipment and Specialized Tools Inventory

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment and tools. The

successful Contractor shall provide any and all equipment, vehicles, and tools, whether included in the purchase or not, to maintain a fully operating system under the terms of this contract.

Table 2
Spare Parts
Wastewater Collection System Fort Leavenworth

Qty	Item	Make/Model	Description	Remarks
	None Identified			

Table 3
Specialized Equipment and Vehicles
Wastewater Collection System Fort Leavenworth

Description	Quantity	Location	Maker
None Identified			

J04.2.3 Wastewater System Manuals, Drawings, and Records Inventory

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

Table 4
Manuals, Drawings, and Records
Wastewater Collection System Fort Leavenworth

Qty	Item	Description	Remarks
1	System Drawings	CAD Drawings	Electronic and Hard Copy available
1	Infrastructure Master Plan	Discussion of future growth plans of the installation	Hard Copy
1	Commercial Activities Study	Chapters pertinent to wastewater system standards of service requirements, maintenance and operation	Electronic and Hard Copy available
1	Sanitary and Storm Sewer System Study	Contract DACAH-92-C-0125; February, 1995; by RJN Group for Kansas City District, U.S. Army Corps of Engineers	Electronic and Hard Copy available

J04.3 Current Service Arrangement

The installation currently collects wastewater through approximately 152,000 feet of piping and 9 working lift stations, transporting the wastewater to a meter located on the far southeast side of the Post. From here, the wastewater is transported through the City of Leavenworth's wastewater system,

the municipal utility which provides treatment of the wastewater at their treatment facilities. The meter belongs to the local utility, and this is the metered flow for billing purposes.

J04.4 Secondary Metering

There are currently no requirements for secondary metering of wastewater included in this contract. Any future wastewater secondary metering requested by the Government will be IAW C.3, Future Secondary Meters.

J04.5 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following: Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to the Contracting Officer's designee. (This information will be provided upon award)

Outage Report. The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall include the following information for Scheduled and Unscheduled outages:

Scheduled: Requestor, date, time, duration, facilities affected, feedback provided during outage, outage notification form number, and digging clearance number.

Unscheduled: Include date, time and duration, facilities affected, response time after notification, completion times, feedback provided at time of outage, specific item failure, probability of future failure, long term fix, and emergency digging clearance number.

Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award)

Meter Reading Report. The monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award)

System Efficiency Report. If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award)

J04.6 Infiltration and Inflow (I&I) Projects

Infiltration and inflow throughout the collection system has been a significant problem for Fort Leavenworth. IAW C.3, Utility Service Requirement, the following projects have been implemented by the Government for managing and monitoring I&I:

According to Leavenworth Directorate of Public Works personnel, $2.5 million of recently completed rehabilitation projects initiated as a result of the 1995 in-depth wastewater system study have improved the reliability of the system as well as reduced the amount of I&I, however another $2.5 million worth of repairs have been identified but not implemented.

J04.7 Service Area

IAW Clause C.4, Service Area, the service area is defined as all areas within the Fort Leavenworth boundaries.

J04.8 Off-Installation Sites

There are no off-installation sites associated with this scope.

J04.9 Specific Transition Requirements

IAW Clause C.13, Operational Transition Plan, Table 5 lists service connections and disconnections required upon transfer, and Table 6 lists the improvement projects required upon transfer of the Fort Leavenworth wastewater collection system.

Table 5
Service Connections and Disconnections
Wastewater Collection System Fort Leavenworth

Location	Description
None	

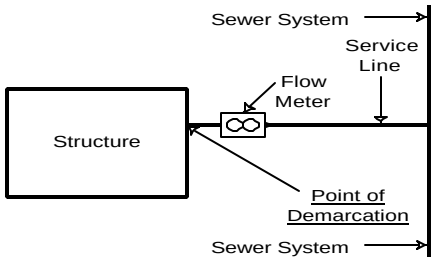
Table 6
System Improvement Projects
Wastewater Collection System Fort Leavenworth

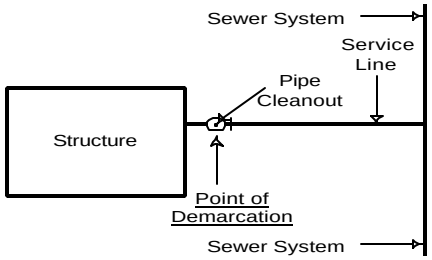
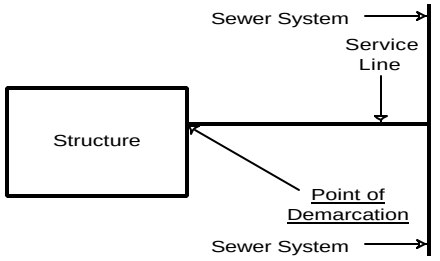
Project Location	Project Description
Fort Leavenworth	**Recent, Ongoing, and Planned Improvements** An in-depth evaluation of the Fort's Wastewater and Stormwater Systems was performed by the RJN Group, the results of which were reported in February, 1995. The purpose of the study was to locate and recommend cost-effective remediation for elimination of Infiltration and Inflow (I/I) to the systems. The assessment evaluated both wet-weather system hydraulics and made a determination of the condition of the existing collection system infrastructure. The recommendations that came from the study were prioritized based on system economics to eliminate I/I and increase reliability of the system. The recommendations included hydraulic pipe cleaning, pipeline and lift station rehabilitation, manhole replacements, and elimination of cross-connections between storm and sanitary sewer systems. To date, $2.5 million of the $5 million in recommended repairs have been implemented. There are no programmed funds to implement the remaining repairs at this time.

J04.10 Wastewater Collection System Points of Demarcation

The point of demarcation is defined as the point on the wastewater collection pipe where ownership changes from the Grantee to the building owner. Table 7 below identifies the general locations of these points with respect to the building served.

Table 7
Points of Demarcation
Wastewater Collection System Fort Leavenworth

Point of Demarcation	Applicable Scenario	Sketch
Point where the service line enters the structure	Sewer system flow meter is located on the service line entering the structure.	

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the cleanout device (if within 10' of the building perimeter)	No flow meter exists and a sewer system cleanout is located within 10 feet of the building perimeter on the service line.	
Point where the service line enters the structure *Note: A new cleanout device should be installed within 10' of building during any stoppage or maintenance action. This will then become the new point of demarcation.*	No flow meter or cleanout exists on the service line entering the structure.	

J04.10.1 Unique Points of Demarcation

Table 8 lists anomalous points of demarcation that do not fit any of the above categories.

Table 8
Unique Points of Demarcation
Wastewater Collection System Fort Leavenworth

Building No.	Point of Demarcation Description
None	-----

J04.11 Wastewater Collection Plants

Table 9 lists all wastewater collection plants and intended demarcation points.

Table 9
Wastewater Collection Plants
Wastewater Collection System Fort Leavenworth

Description	Facility Number	State Coordinates	Other Information
None	---	---	---